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**Maternal Experiences of Childhood Emotional Abuse:
Relations with Toddler Dysregulation**

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Relations with Toddler Dysregulation**

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Dedication

For my mother and father, Marla & Robert Aviles.

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Abstract

Maternal Experiences of Childhood Emotional Abuse: Relations with Toddler Dysregulation

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Early childhood emotional abuse is a prevalent yet understudied phenomenon; the intergenerational effects of psychological maltreatment are not understood. The links between maternal experiences of emotional abuse in childhood, maternal caregiving behaviors, and toddler emotion dysregulation were examined in 125 mother-toddler dyads. Emotional abuse was assessed through an original coding system created by the author for use with Adult Attachment Interviews. Maternal experiences of emotional abuse, but not physical or sexual abuse, were related to emotional dysregulation. Maternal caregiving did not mediate the relation between emotionally abusive experiences and toddler dysregulation; mothers who experienced emotional abuse during childhood were not less sensitive with their children during caregiving. The effects of other types of abuse are also tested and implications are discussed.

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Introduction

The deleterious consequences of child abuse affect maltreated individuals throughout their lifespan (George, Kaplan, & Main, 1985). The effects of physical, sexual, and emotional abuse are well documented, although emotional abuse has been under-studied compared to the other forms of abuse. Many maltreated children experience emotional abuse in conjunction with physical and sexual abuse, while other children solely experience emotional abuse. Child abuse is an especially pernicious risk factor, as its effects are also felt across generations (Bartlett, Kotake, Fauth, & Easterbrooks, 2017; Yang, Font, Ketchum, & Kim, 2018). While there is substantial research on the intergenerational effects of physical and sexual abuse, to my knowledge the specific intergenerational effects of emotional abuse have not been studied.

Individuals who have experienced emotional abuse are more likely to sustain issues with emotion regulation (Burns, Jackson, & Harding, 2010); this is due to the dyadic nature of the acquisition of early emotion regulation (Cassidy, 1994). Early emotion regulation requires both the young child and the caregiver to effectively regulate affective arousal. Therefore, emotion regulation difficulties may also be transmitted to children of abused adults. Investigating the emotion regulation and dysregulation of young children is a logical first step in investigating intergenerational links between emotionally abused adults and their children (Burns et al., 2010; Riggs, 2010). Moreover, assessing emotional abuse through interviews, rather than questionnaires, allows for a richer and more comprehensive understanding of childhood emotional abuse, and how it is understood by the adults who have experienced maltreatment. Thus, this study has two primary goals. Firstly, this study seeks to assess the utility and discriminant validity of a coding system created by the author to assess mothers' representations

of their own childhood emotional abuse experiences from the Adult Attachment Interview, a semi-structured instrument that invites individuals to describe their childhood relationships and experiences in their own words. Secondly, this study seeks to examine the extent to which the children of emotionally abused mothers display emotional dysregulation.

Emotional Abuse

Emotional abuse, also known as psychological or emotional maltreatment, is a common form of child maltreatment. A recent meta-analysis estimates that twenty-seven percent of children worldwide experience emotional abuse (Stoltenborgh, Bakermans-Kranenburg, Alink, & van Ijzendoorn, 2012). Both the World Health Organization (WHO) and the American Academy of Pediatrics recognizes emotional abuse as the most prevalent type of child abuse (Hibbard, Barlow, MacMillan, The Committee on Child Abuse and Neglect, & American Academy of Child and Adolescent Psychiatry, Child Maltreatment and Violence Committee, 2012; World Health Organization, 2017). Childhood emotional abuse frequently occurs concordantly with physical and sexual abuse, and may increase the severity of negative consequences from these other types of maltreatment. In many cases however, psychological maltreatment may be the only form of abuse a child experiences, and this abuse has been linked to specific, negative consequences separate from other types of abuse (Riggs, 2010). It is increasingly understood as the core trauma that underpins all type of abuse (Hart & Glaser, 2011). Psychological maltreatment alone has been linked to a variety of negative consequences, including emotion dysregulation (Burns et al., 2010), feelings of hopelessness in the victim (Courtney, Kushwaha, & Johnson, 2008), mental disorders such as depression and anxiety (Gibb,

Chelminski, & Zimmerman, 2007), and structural changes in the brain, such as a reduced prefrontal cortex (van Harmelen et al., 2010).

Researchers and governmental agencies each use different definitions of emotional abuse. The U.S. Department of Health and Human Services defines emotional abuse as “a pattern of behavior that impairs a child’s emotional development or sense of self-worth. This may include constant criticism, threats, or rejection, as well as withholding love, support, or guidance. *Emotional abuse is almost always present when other types of maltreatment are identified* [emphasis added]” (Child Welfare Information Gateway, 2013). The World Health Organization characterizes emotional abuse as:

both isolated incidences, as well as a pattern of failure over time on the part of a parent or caregiver to provide a developmentally appropriate environment... Abuse of this type includes: the restriction of movement; patterns of belittling, blaming, threatening, frightening, discriminating against or ridiculing; and other non-physical forms of rejection or hostile treatment. (Butchart, World Health Organization, & International Society for the Prevention of Child Abuse and Neglect, 2006, p.19).

These definitions differ in regards to the length of maltreatment required for the experiences to be considered abuse, as well as the specific aspects of emotional abuse highlighted.

The American Professional Society on the Abuse of Children offers a comprehensive framework that encompasses much of the variability in defining childhood emotional abuse. This conceptual frame encompasses six categories: spurning (rejection, belittling, and degrading); exploiting/corrupting, terrorizing, isolating, and neglect (American Professional Society on the Abuse of Children, 1995). Researchers have also used varying definitions of emotional abuse

(Glaser, 2002, 2011; Malik & Shah, 2007; Sanders & Becker-Laussen, 1995). Due to the conceptual discrepancies among the different definitions of emotional abuse, I created an emotional abuse coding system for Adult Attachment Interviews to encompass all valid aspects of psychological maltreatment. A thorough list of emotionally abusive experiences as defined by governmental organization, non-profit agencies, and researchers were compiled into a comprehensive list that was ranked by severity for the creation of the coding system.

Maternal experiences of childhood abuse and caregiving behaviors

The links between maternal experiences of childhood emotional abuse and their subsequent parenting are unclear (Hughes & Cossar, 2016). Experiencing psychological maltreatment may increase the likelihood that mothers experience lower levels of parenting self-efficacy and competence (Caldwell, Shaver, Li, & Minzenberg, 2011). These maternal experiences may also be associated with lower maternal empathy (Bert, Guner, & Lanzi, 2009), acceptance (Zalewski, Cyranowski, Cheng, & Swartz, 2013) and a higher likelihood of dysfunction in parent-child relationships (Lang, Gartstein, Rodgers, & Lebeck, 2010; Pereira et al., 2012). However, other research did not find a relation between psychological abuse and maternal sensitivity (Pereira et al., 2012). Furthermore, as Hughes & Cossar (2016) stress, maternal experiences of abuse are just one variable that affects later parenting, and the majority of mothers who experienced abuse are not demonstrating suboptimal parenting.

While retrospective accounts of childhood emotional abuse have been assessed through self-report questionnaires (Bernstein et al., 2003; Kent & Waller, 1998; A. Murphy et al., 2014a), existing questionnaires generally attempt to assess physical and sexual abuse at the same time; they are often not focused solely on emotional abuse. Additionally, questionnaires have inherent

limitations concerning the richness of the collected data. A semi-structured narrative interview, such as the Adult Attachment Interview (AAI), during which participants can elaborate on important aspects of their childhood experiences, may allow for a more comprehensive understanding of early childhood emotional abuse.

Emotional abuse and Adult Attachment Interviews. The Adult Attachment Interview is a semi-structured questionnaire that asks individuals to discuss aspects of their childhood with an in-person interviewer over approximately one hour. Topics include relationships with parents, disciplinary methods, and separations, as well as childhood losses and traumas (George et al., 1985). Respondents are encouraged to highlight specific memories that support their various answers, and interviewers are permitted to ask follow-up questions to probe important topics. This flexibility, as well as the length of the interview, make the Adult Attachment Interview a unique opportunity to collect detailed information regarding childhood abuse.

Very little research has been conducted exploring emotional abuse in the context of Adult Attachment Interviews. One study used negative childhood experiences, measured by the Adverse Childhood Experiences (ACEs) Questionnaire to correlate the number of adverse events experienced in childhood with individuals' attachment classifications (A. Murphy et al., 2014a). This research found that as the number of adverse events increase, so does the likelihood that a transcript will be coded as Unresolved/disorganized, an attachment classification associated with negative outcomes across multiple domains. This finding is preliminary, however; Murphy and colleagues assessed emotional abuse through a dichotomous response to two questions regarding adults swearing at or insulting the individual, or acting in a way that the child was afraid of being physically hurt.

The present study's broader coding system, based on a comprehensive assessment of the emotional maltreatment literature, allows for a more in-depth exploration of the relations between emotional abuse and negative consequences. This coding system may be related to attachment classifications as well as to characteristics and symptomology of the individuals being interviewed, such as depression. It can also be used to determine associations between emotional abuse and the quality of close relationships and interactions (e.g., with spouses and children), and child outcomes. In the present study, as a first step toward assessing the predictive validity of this scale, I will examine the hypothesis that childhood emotional abuse is likely to result in intergeneration transmission of emotional dysregulation.

Emotion Regulation

Emotion regulation is a crucial skill with consequences across psychological, social, and behavioral domains. Adaptive emotion regulation can be conceptualized as the ability to monitor and modulate one's emotional reactions in order to achieve desired goals (Thompson, 1994). In contrast, emotion dysregulation is best understood as two diametrically opposite components, i.e. emotion underregulation and overregulation (Cole, Michel, & Teti, 1994). Emotion underregulation refers to an inability to effectively manage emotional arousal. Individuals who underregulate emotions tend to be overwhelmed by their emotional arousal, and are prone to overexpression of their emotions. Overregulation, on the other hand, refers to the suppression of emotions. Children who do not gain the skills to self-regulate their emotions effectively may continue to show regulation deficits into adulthood. These constructs have also been referred to as uncontrolled and overcontrolled emotion regulation, respectively (Calkins & Hill, 2011). Furthermore, emotionally dysregulated adults have been shown to be less equipped to promote

emotion regulation in their own children, perpetuating an intergenerational cycle of emotion dysregulation (Buckholdt, Parra, & Jobe-Shields, 2014).

Issues with emotion regulation and dysregulation can affect many different aspects of life. Children with reduced emotion regulatory abilities exhibit more internalizing symptoms, such as depression and anxiety (Kim & Cicchetti, 2009). Various forms of psychopathology have been linked to poor emotional self-regulation (Burns et al., 2010; Cole et al., 1994). The link between exposure to trauma and post-traumatic stress (PTS) symptoms is mediated by difficulties with emotion regulation (Tull, Barrett, McMillan, & Roemer, 2007). Socially, more adaptive emotion regulation is predictive of higher peer acceptance (Kim & Cicchetti, 2009). Emotion regulation abilities are also linked to academic success, as measured by standardized literacy and mathematic scores as well as teacher-reports (Graziano, Reavis, Keane, & Calkins, 2007).

The development of emotion regulation is primarily a dyadic process in young children, as young children have limited regulatory abilities (Field, 1994). Flexible, adaptive emotion regulation stems from caregivers who sensitively respond to their child's emotional signals (Cassidy, 1994). Primary caregivers and children practice emotion regulation with their children over the first years of life. Through repeated parent-child affective experiences, observation, and family emotional climate, children learn to self-regulate (Morris, Silk, Steinberg, Myers, & Robinson, 2007). The efficacy of emotion regulation depends on several factors, including personal characteristics such as temperament, as well as parental caregiving (Gottman, Katz, & Hooven, 1996). Additionally, parents with particular psychological impairments may be less able to assist their children in developing emotion regulation. For example, mothers with higher

depressive symptoms are less likely to provide necessary comfort and emotional scaffolding compared with non-depressed mothers, and thus are more likely to have children who show higher levels of emotion dysregulation (Hoffman, Crnic, & Baker, 2006).

Experiencing emotional abuse interferes with children's development of effective emotional regulation (Burns et al., 2010; Riggs, 2010). Specifically, emotionally abusive parenting inhibits the self-efficacy of a child in the face of a variety of situations, including the ability to effectively modulate emotional arousal (Riggs, 2010). Additionally, maltreating mothers are less likely to help children regulate their emotional arousal, and less likely to show support for negative emotional expression. They may react with anger when the child does express negative emotions, thus encouraging children to inhibit the expression of their emotions over time. This results in fewer effective coping strategies for regulating emotional arousal (Shipman & Zeman, 2001). Maltreated children are thus more likely to engage in overregulation of their emotions (Martins, Soares, Martins, Tereno, & Osório, 2012; Maughan & Cicchetti, 2003).

Past research indicates that parental emotional abuse is more strongly associated with emotion regulation difficulties than either physical or sexual abuse in the abused person (Berzenski & Yates, 2010; Burns et al., 2010). However, although the effects of physical and sexual abuse are known to transmit across generations (Bosquet Enlow, Englund, & Egeland, 2016), to the authors' knowledge, no studies to date have demonstrated an intergenerational transmission of the effects of *emotional* abuse that parents experienced during their childhood on their own children's emotion regulation. The emotion regulation abilities of the children of

emotionally maltreated mothers is thus a logical area to look for transgenerational effects of emotional abuse.

Current Study

The aims of the present study are twofold: to assess a recently developed coding system to assess childhood emotional abuse from Adult Attachment Interviews, and to explore the emotion regulation abilities of young children of mothers who have experienced varying intensities of emotional abuse. I expect that children of mothers who have experienced higher levels of emotional abuse as children will be more likely to be emotionally dysregulated. Accordingly, I hypothesize that maternal experiences of emotional abuse will predict higher levels of emotion underregulation and overregulation at age two, above and beyond the effects of mothers' experiences of physical and sexual abuse and the effects of maternal caregiving behaviors, controlling for the effects of family income.

Methods

Participants

As part of a larger longitudinal study assessing the transition to parenthood, data were collected from 125 primiparous couples. These cohabitating couples, predominately married, were recruited in and around a large southwestern city. English fluency was required. Data collection on the families began when expecting women were in their third trimester, and continued until children were approximately seven years old. The present study includes complete data for 97 mother-child dyads (Mothers: $M_{\text{age}} = 29.9$ yrs., $SD_{\text{age}} = 4.4$ yrs.). By the 24-month phase, 108 families remained; twelve families moved, three declined to continue participation, and two families could not be located. Complete data was not available for eleven additional families. Families with lower incomes were more likely to leave the study than those with incomes above \$30,000 ($\chi^2(4, 123) = 16.72, p < .01$). The sample included 81% of participants who identified as Caucasian, 6% Hispanic, 3% African-American, and 9% Other. The median income range of participants was between \$30,000 and \$45,000 annually. Approximately 83% of participating mothers had at least some college experience. Fifty-nine percent of the child participants in the study were male; forty-one percent were female. Families were compensated with a \$50 savings bond for the target child at each of the three phases, a t-shirt, an audiotape of lullabies, and a copy of highlights from their videotaped interactions.

Procedure

Expectant mothers completed the Adult Attachment Interview while in their third trimester of pregnancy. When the child was approximately twenty-four months old, mothers and their target children engaged in videotaped play and caregiving interactions. Toddlers' emotion

regulation at twenty-four months was assessed through frustration tasks conducted by the researcher in a laboratory setting.

Measures

Emotional Abuse Coding System. Emotional abuse was coded from Adult Attachment Interviews obtained from mothers in their third trimester of pregnancy. The Adult Attachment Interview (George et al., 1985) is a semi-structured interview that focuses on early attachment experiences in order to assess an individual's attachment representations. Interviews typically lasted sixty to ninety minutes and were transcribed verbatim. Interviews were conducted on both mothers and fathers; only data from mothers is reported in the present study.

The Emotional Abuse Coding System (see Appendix A) was created by compiling previous researchers' definitions and operationalization of emotional abuse (Glaser, 2002, 2011; Malik & Shah, 2007; A. Murphy et al., 2014b; Riggs, 2010; Sanders & Becker-Lausen, 1995). It also synthesizes emotional abuse criteria used by organizations such as the WHO (Butchart et al., 2006), the American Academy of Pediatrics (Hibbard et al., 2012), the U.S. Department of Health & Human Services (Child Welfare Information Gateway, 2013), and the American Professional Society on the Abuse of Children (American Professional Society on the Abuse of Children, 1995).

The scale also includes a separate section of abuse characteristics already included in the Adult Attachment Interview (AAI) manual. Excluding current AAI abusive criteria would have limited the comprehensiveness of this scale; these criteria are coded separately so that they can be excluded in analyses if desired. This was done in order to be able to ascertain in the future the added value of including the emotional abuse coding system with other scales already being used

to code Adult Attachment Interviews. This original sub-section from the Adult Attachment Interview manual includes experiences such as parental frightening rages, bizarre punishments such as being locked in a closet, or bizarre and frightening parental behavior in front of child (George, Kaplan, & Main, 1985). Each participant's transcript received a score representing the total amount of emotional abuse they experienced in childhood (ages 0 – 14) using a nine-point Likert scale that ranges from no evidence of emotional abuse (1) to cruel emotional abuse (9). This Likert scale matches the rating system currently in the AAI manual.

Two coders were trained on this coding system and blinded to all other information about the participants, as well as the hypotheses of this study. As mentioned previously, the first author trained the two coders using transcripts from a separate wave of data collection to obtain initial acceptable levels of interrater reliability. At least two coders read each Adult Attachment Interview and looked for evidence of the criteria listed in the coding system. Examples were only included if the participant first experienced the abusive experience before the age of fourteen. Coders independently assigned a rating between 1 – 9, inclusive, for each abusive experience. As instructed by the Adult Attachment Interview coding manual, the highest score given became the score for the overall transcript. For example, a transcript that contained a passage that was rated a 3 (example of slight emotional abuse), and another that was rated a 5 (moderate emotional abuse), the transcript would receive a holistic score of seven. Additionally, in keeping with current AAI coding practices, if a transcript was coded for several examples at a certain level (e.g., five “moderate” examples earning a 5), the coder could choose to increase the score of the overall transcript one number (in this example, from a 5 to a 6). Scores were considered reliable if the two coders were within one integer of each other (e.g. 5 and 6). Discrepant transcripts were

coded by the third coder, and discussed until all three coders agreed on a score. Intra-class correlations (ICC) for each of the three pairs of coders ranged from 93% -98%, with a grand mean ICC of 96%.

Disclosures of emotionally abusive experiences ran the gamut of severity. One woman discussed being yelled at as a child. This transcript was rated as a 3, under the indicator “One or two limited examples of verbal abuse”.

Um, my mom tried real hard to do everything. Be the PTA mom, uh, taxi-driver, you know, ev- everything. And, it really wore real hard on her, and I remember-- it coming out in stress points. With the kids' relationships with her. You know, it was like, "Well your mom's great, she makes cookies, and she does this, and she does that, and she does this." And you're like, Well, yeah, but, you know, in the meanwhile, she gets stressed out, and she screams at us. And I ca- and as I grew older, I could see it. But when I was younger, it was like-- you know, she, she'd just get real mad, because she was just stressed out, and she'd like, "Well how come you have to watch TV now I want that racket down cause I'm making cookies for your PTA thing tomorrow, you know, your uh home-work, or homeroom or whatever." And I'm like "Well don't make the cookies for homeroom!" But it didn't come out that way cause I was just a kid..."

Another woman discussed repeated criticism she received from her stepfather. This passage was rated as a 5, for “Moderate examples of criticizing, (e.g. features, work)”.

“He just, I mean...he was another one who did not have any business having kids, cause he just (Mmm) he didn't know, I mean, if it wasn't done, according to his way, (Uh huh) then it wasn't done right. (Uh huh) I mean, I have a specific memory and, of, him getting me up out of bed, because I had put the dishes in the dishwasher wrong. (Wow) You know here I was in bed. And he just, he worked, I swear it seemed like he worked real hard to make my life miserable. {{Subject laughs}} You know just real nit-picky things, you know if I didn't do this right, and, (Uh huh) I don't know, he was into all kinds of head games and stuff.”

In this example, a woman compared spankings that she received with verbal abuse that she disclosed. This passage was rated as a 7, for “Verbal abuse: screaming, insults, put-downs, swearing that occurs often but is not an integral part of the relationship”.

“I think it was more traumatic, um—I’d say I mean I was never hit with a hair brush or a belt even though I, I was probably threatened with it a lot, you know I’m going to get your father’s belt, um, you better listen to me or you know you’re going to get the spanking of your life, I got a lot more verbal abusiveness than really, I think it was the yelling it’s all the just even up till now I hate yelling....”

Some women in the transcripts demonstrated severe emotional abuse on top of other types of abuse. In this example, a woman reports being sexually assaulted by her stepfather. In addition to the sexual trauma she experienced, she experienced further emotional trauma when she turned to her mother for help, but her mother did not believe her. This passage was rated as a 9: “Caregiver did not believe child about abuse from another”.

“I was hugging her and I was crying and she was she was, um—petting my head. Saying “it’s okay you can tell me anything, you know can tell me anything on your mind,” you know. And I said I go, “I don’t want Daddy touching me no more.” ...and then she got up and and tells him to come in the room, and she goes [Participant] just told me that, you were touching her.” And he goes “well, I don’t know what she’s talking about.” ... You know, this child this little girl six and a half saying those words I mean that’s not something a six year old would know. And um I I think she didn’t want to believe it, I guess that’s what it was she didn’t [sic] to believe it, I guess that’s what it was she didn’t want to believe it, that he was doing such things. Cause the way she- she says it that you know she still can’t believe it. She still doesn’t believe it.”

In this passage, a woman describes having been afraid for her life in a violent, but non-physical episode. This passage was also rated a 9: Parent goes into frightening rages directed at child. Of note, this passage would also be counted as abusive according to AAI coding conventions.

“But then, I can also remember times when, for reasons that usually I didn’t even know what had been done or what I had done or what had happened she would uhm, just be really angry. Uhm, and I can remember uhm you know like I remember one incident really clearly where she uhm, she uhm, had a hair brush and she was running after me and my brother to spank us and she just stopped and started beating on the counter cause she was so angry. Uhm and I think it was because she was probably you know afraid she was gonna kill us if she uhm caught us at that point.” (Participant 105)

Physical and sexual abuse. Physical and sexual abuse (See Appendix B) were rated by two coders who were blinded to the outcome measure of the study (Leon, Jacobvitz, & Hazen, 2004). Physical and sexual abuse were rated on a seven-point scale ($ICC = .88$). Transcripts with no discussion of abusive experiences were given a rating of one. Lower scores (from 2 – 3) were given to transcripts that mentioned experiences such as occasional spankings, or frequent but not harsh physical discipline. Mid-range scores (4 – 5) were given to transcripts that included harsh spankings and other physical contact. Coders assigned the highest scores (6 – 7) to transcripts that included parental sexually abusive experiences, and/or physical contact that leaves a mark or being severely hit so that the child was in pain after the event.

Maternal caregiving quality. To assess mother-toddler caregiving, mothers were instructed to change the toddler's clothes, feed the toddler, and play with the toddler. Observations of maternal sensitivity, hostility/negative affect, emotional disengagement/withdrawal, frightening behaviors, and role-reversed behaviors toward the child were assessed using the Parent-Toddler Caregiving Scales (See Appendix C; Hazen, 2018). All scales ranged from 1 – 9. Maternal sensitivity ($\alpha = .94$, $ICC = .72$) included fourteen items, including observing the parent responding “promptly and with tenderness to child's bids for comfort or affection,” developmentally appropriate interactions, and whether parents frequently checked with their child “to verify child's wishes. Higher scores indicated more sensitivity. Two ways that a parent can demonstrate insensitive caregiving is the degree to which they are hostile and/or emotionally disengaged/withdrawn. Scales that assessed both were included. A hostility/negative affect subscale ($\alpha = .89$, $ICC = .70$) included eight items, including “parent shows veiled hostility to child by using abrupt, jerky movements when handling [child]”, and

“parent becomes frustrated or angry if child does not attend to the task”. Higher scores indicated more hostility. Emotional disengagement/withdrawal ($\alpha = .90$, ICC = .80) is a six-item scale that includes observations such as “parent’s and child’s interaction seems flat and disengaged” and “clear lack of emotional connection between parent and child”. Higher scores indicated more emotional disengagement/withdrawal.

In addition to sensitive caregiving, we also examined role-reversal, a type of boundary disturbance. Boundary disturbances between parent and children upset a normative balance of autonomy and intimacy, and is often associated with negative consequences for children (Jacobvitz, Hazen, Curran, & Hitchens, 2004). Role-reversed behaviors ($\alpha = .89$, ICC = .73) were assessed by a scale consisting of eight indicators, such as parents seems “timid, passive, or helpless in interactions with child, and “parent seems hurts or makes comment indicating he or she believes that child has rejected parent when child opposes or ignores parent’s wishes”. Higher scores indicated more role reversal.

Lastly, frightening parental behavior was assessed with a scale created by Main & Hesse (1995), with additional examples of frightening maternal behavior added (ICC = .68, Jacobvitz, Leon, & Hazen, 2006). Parents may display frightened/frightening behaviors when current caregiving too strongly reminds them of traumatic experiences in their past (Schuengel, Bakermans-Kranenburg, & Van IJzendoorn, 1999). This scale includes dissociative behavior (e.g. when the mother seems to be in a trancelike state), unusual vocalizations and facial expressions, and covering of the child’s face. Higher scores indicate more frightening behavior.

Toddlers’ Emotion Regulation. Toddlers were asked to complete two challenging and frustrating tasks designed to assess their emotion regulation. These challenges were conducted

with only the researcher in the laboratory, while a parent completed questionnaire in an area behind a curtain, to assess the child's emotion regulation without parental assistance. The first task consisted of retrieving snacks trapped inside a tube. Using interconnecting bristle blocks was necessary to successfully obtain the snacks. The second task required the toddler to retrieve attractive toys in a large locked plexiglass box. This activity was designed to be to assess toddler's abilities to cope with frustration, as they were too difficult for most toddlers to complete without assistance, and required the toddler to successfully manage their emotions and solicit the help from the researcher. Each task lasted approximately five to ten minutes.

The Children's Emotion Regulation Scales (See Appendix D; $\kappa = .96$, Boyd-Soisson, 2002) were used to rate the toddler's emotional underregulation ($ICC = .96$) and overregulation ($ICC = .85$). A 7-point scale was used to measure both facets of the child's emotion dysregulation; higher scores indicate higher levels of underregulation and overregulation, respectively. Toddlers were rated high on emotional underregulation if their frustration resulted in crying, screaming, or tantrums, and if the researcher was unable to calm or comfort the child (Hazen et al., 2010). Toddlers received high scores on emotional overregulation if they withdrew from tasks or demonstrated constricted, flat affect (S. E. Murphy, Gallegos, Hazen, Jacobvitz, & Woods, 2015; Thompson, 1994). Two observers rated 65% of the videotapes for reliability. An additional 15% of videotapes were conference-coded during training.

Demographic Variables. Family income information was collected during the baseline study phase (prenatal). Participants selected the choice that best reflected the income of their household, from a range of incomes that increased in increments of \$15,000 (e.g. \$15,000 - \$30,000).

Results

Means, standard deviations, and first-order correlations between study variables are shown in Table 1. As expected, mothers' childhood experiences of emotional abuse were correlated with their children's greater underregulation, although not with their overregulation or adaptive regulation. Frequencies showing ratings of maternal experiences of emotional abuse during childhood are shown in Figure 1. Of the transcripts coded, 39 (33%) of women reported no emotional abuse, 16 participants (13%) reported experiences of slight emotional abuse, 21 (18%) experienced moderate or occasional emotional abuse, 21 (18%) reported severe emotional abuse, and 21 (18%) reported extreme, cruel emotional abuse.

Overview of Analyses

For all models tested, measured variable path analyses (MVPA) and latent variable path analyses (MVPA) within a structural equation modeling (SEM) framework were conducted to assess maternal experiences of child abuse on toddler outcomes using Mplus 7.4 (Muthén & Muthén, 1998-2015). Robust maximum likelihood (MLR) estimation was used to analyze all models because the assumptions of normality were not met for all endogenous variables (underregulation was not normally distributed, with skewness of 3.077 and kurtosis of 8.790; maternal hostility was also not normally distributed, with skewness of -2.275 and kurtosis of 7.331 (Kline, 2016). Using this method of estimation calculates estimates of standard errors that are robust against non-normality. This longitudinal dataset has some missing data; 108 families remained in the study when children were 24 months of age. Parents who reported an income of

less than \$30,000 at the prenatal phase of collection were less likely to remain in the study by Phase 3, compared to parents who reported incomes of \$45,000 - \$60,000, ($c^2(4) = 12.22, p < .05$). Thus, we controlled for income in our analyses. Families that dropped out of the study did not significantly differ from families that remained on any of the other study variables.

Missing data was addressed through full-information maximum likelihood (FIML) estimation. FIML does not impute missing values in the dataset, but rather allows all available data to contribute to parameter estimation; subgroups of individuals, determined by their missing data patterns, inform the parameter estimates for which they have relevant data (Enders & Bandalos, 2001; Mueller & Hancock, 2010). FIML uses information of partially complete data for variables as well as associations between variables to create conditional expectations of outcome variables given other variables in the model (Enders & Bandalos, 2001). FIML estimation has been shown to produce less biased parameters than listwise and pairwise deletion as well as mean imputation techniques (Arbuckle, 1996).

Intergenerational effects of maternal experiences of child abuse

In the first model, maternal experiences of childhood emotional abuse, physical abuse, and sexual abuse were modeled as predictors of toddler emotion regulation and emotion dysregulation (i.e., underregulation and overregulation). Maternal experiences of childhood emotional abuse had direct effects on toddler underregulation and overregulation, after accounting for the effects of family income and all other relationships in the model (Figure 2). Mothers who had experienced higher levels of emotional abuse as children were more likely to have toddlers who displayed underregulation ($\beta = .25, p = .045$), but were less likely to have toddlers with high levels of overregulation ($\beta = -.23, p = .049$). Early maternal experiences of

emotional abuse were unrelated to their toddlers' adaptive emotion regulation ($\beta = .03, p = .800$). In addition, maternal experiences of physical and sexual abuse were unrelated to underregulation ($\beta = -.02, p = .893$), overregulation ($\beta = .11, p = .325$), or adaptive emotion regulation ($\beta = -.07, p = .540$). The model was just identified, and thus model fit could not be ascertained. Model fit could be ascertained for the full model and is presented and examined in all mediation models.

Mediating effects of maternal caregiving between maternal experiences of emotional abuse and toddler emotion dysregulation.

Maternal caregiving behaviors were examined as a possible mediator between maternal experiences of child abuse and toddler emotional under- and overregulation. Maternal caregiving with infants and maternal caregiving with toddlers were examined as mediators in separate models. Maternal sensitivity, hostility, and disengagement/withdrawal at each time point were modeled as latent variables. Hostility and disengagement values were reversed, such that higher values of caregiving indicate more sensitive caregiving behaviors. Before conducting a full path analysis model, the measurement model was tested to ensure proper fit for both latent variables. The measurement model of sensitive caregiving during the twenty-four month old assessment showed good fit ($\chi^2 (7) = 165.720, p = .330$; RMSEA = .00 [.00 - .27]; CFI = 1.00, SRMR = .01). The factor loading for maternal sensitivity was constrained to one for the measurement portion; the standardized coefficients of hostility (.80) and maternal emotional disengagement/withdrawal (.85) significant at the $p < .001$ level (Figure 3).

The full structural model was tested; emotional, physical, and sexual abuse were associated with sensitive behaviors (modeled as a latent variable), role reversed behaviors, and frightening behavior. These caregiving behaviors were related to toddler underregulation and

toddler overregulation. The direct links between abuse and emotion dysregulation were also tested in the full model (Figure 4). The full model had excellent fit, ($\chi^2 (17) = 12.685, p = .757$; RMSEA = .000 [.000 - .058]; CFI = 1.000; SRMR = .045). Family income is controlled for on all endogenous variables (i.e. caregiving behaviors and emotion dysregulation).

Maternal experiences of childhood emotional abuse was unrelated to sensitive caregiving ($\beta = .11, p = .406$). There is a marginally significant direct effect of maternal experiences of childhood emotional abuse on maternal role-reversing behaviors during toddlerhood ($\beta = .21, p = .075$), such that mothers who experienced more emotional abuse during their childhood were more likely to engage in role reversal with their twenty-four month children. There was also a marginally significant association between early emotional abuse and maternal frightening behavior ($\beta = .25, p = .069$), such that mothers who had experienced more emotional abuse as children were more likely to display frightening caregiving to their toddlers. There is still a direct effect of mothers' experience of childhood emotional abuse on toddler underregulation ($\beta = .24, p = .040$) and overregulation ($\beta = -.25, p = .037$), after accounting for maternal caregiving behaviors.

Maternal experiences of physical and/or sexual abuse were related to caregiving quality with their toddlers. Mothers who experienced physical and/or sexual abuse were more likely to display lower quality caregiving with their toddlers ($\beta = -.28, p = .012$). There was no evidence of links between experiences of physical and/or sexual abuse and role reversing caregiving behaviors ($\beta = -.10, p = .497$) or frightening caregiving behavior at twenty-four months ($\beta = -.01, p = .941$), however.

Surprisingly, maternal sensitivity during toddlerhood was positively related to toddler underregulation ($\beta = .30, p = .002$), such that higher levels of sensitive caregiving were related to higher levels of underregulation. There was no evidence of a link between role-reversing behaviors and toddler underregulation ($\beta = .23, p = .139$). There was a marginally significant effect of frightening behaviors ($\beta = -.15, p = .060$) on toddler underregulation, such that mothers who display more frightening behaviors may have toddlers who are less underregulated. Maternal caregiving ($\beta = -.18, p = .284$), role reversal ($\beta = .17, p = .16$), and frightening behavior ($\beta = -.01, p = .930$) were all unrelated to concurrent toddler overregulation.

Indirect effects were tested using the delta method for all calculations (Bollen, 1989). In addition to the direct effects previously mentioned, there was evidence of a marginally significant indirect (i.e. mediated) effect of maternal caregiving between physical and sexual abuse and toddler underregulation ($\beta = -.09, p = .054$). There was no evidence of any other significant indirect effects between maternal experiences of child abuse and toddler emotion dysregulation.

Alternative Models

Although careful theoretical consideration was given to the order of the path models presented, I acknowledge that it is possible that there are alternative models that could change the order of the endogenous variables (i.e. maternal caregiving behaviors and toddler emotion regulation). It is feasible that it is the children's emotion regulation and dysregulation that may affect mothers' caregiving behaviors (CITE). Two alternative models were tested; the first reversed the direction of emotion dysregulation and caregiving behaviors. This alternative model had a higher AIC and BIC value (AIC = 3334.390, BIC = 3489.040) and equivalent RMSEA and

CFI values as the original model (AIC = 3331.811, BIC = 3467.952). AIC and BIC are in a metric of absolute values, and any decrease in value is associated with a better model fit.

Acknowledging the possibility of bidirectionality among concurrent constructs, the second alternative model added paths reversing the direction of the effects of emotion dysregulation and caregiving behaviors while preserving the original path. This model was unable to be identified and thus could not run. The results of these alternative modes provide some support for the original model as constructed: abuse, followed by caregiving, followed by emotion dysregulation (Benner & Graham, 2013).

Discussion

This study demonstrates that experiencing childhood emotional abuse has intergenerational ramifications for the children of maltreated women. Women who experienced higher levels of psychological maltreatment as a child were more likely to have underregulated children, and less likely to have overregulated children. Toddler emotion dysregulation was predicted only by emotional abuse; physical and sexual abuse were not related to dysregulation in the second generation. These findings also speak to the resilience of emotionally maltreated mothers, and their abilities to deliver sensitive caregiving to their children. Relatedly, the relation between physical and sexual abuse and insensitive caregiving suggest that sensitive caregiving interventions should be targeted towards women who have been physically and sexually abused.

Prevalence of Childhood Emotional Abuse

The rates of emotional abuse found in this sample are in line with previous research (Newcomb & Locke, 2001); in this study, approximately half of the women in this community sample described moderate to severe forms of psychological maltreatment during their first fourteen years of life. These women are more likely to struggle with depression (Shapiro et al., 2014), low self-esteem, and psychiatric issues (Kaplan, Pelcovitz, & Labruna, 1999) as a result of these early traumas. Approximately seventy percent described some form of psychological maltreatment; one-third of women described severe emotional abuse. This is a staggering amount of emotional abuse from a community sample.

Intergenerational Effects of Childhood Abuse

Toddlers who had mothers who had experienced emotional abuse were likely to show different patterns of dysregulation, an intergenerational effect spanning a generation of

experiences. These effects were observable by the time the children had reached twenty-four months of age. It is interesting that this link is not mediated by maternal caregiving; being emotional maltreated does not leave mothers unable to sensitively care for their own children. It is possible that maternal emotion regulation is a mediator between maternal experiences and toddler dysregulation, and future studies should explore this potential mechanism. As previously mentioned, experiencing emotional abuse negatively impacts individuals' emotion regulation (Burns et al., 2010). When these individuals become parents, they engage in dyadic emotion regulation with their young children, as infants have limited self-regulatory abilities (Diamond & Aspinwall, 2003). Through these processes of dyadic emotion regulation, maladaptive or stunted regulation may be passed from mother to child. That physical and sexual abuse, separately from emotional abuse, is unrelated to toddler dysregulation underscores the assertion of Hart & Glaser (2011) as well as others that emotional abuse is at the core of all abuse.

As expected, mothers who reported experiencing more emotional abuse had toddlers who were more likely to be underregulated. Conversely, women who experienced higher levels of emotional abuse were *less* likely to have toddlers who displayed overregulation. This may be true because overregulation may be a useful strategy for children who have reason to be afraid of parental reactions to their affective needs. Children who experience abuse, for example, may learn to overregulate and suppress their emotions so as not to arouse the ire of a caregiver. This more subtle type of emotion dysregulation may not be passed on intergenerationally. These findings illuminate the differences between underregulation and overregulation and the utility of examining both types of regulation separately.

Assessing toddler adaptive emotion regulation and emotion dysregulation orthogonally allowed us to assess exactly which parts of emotion regulation may be affected by the childhood trauma of the mothers. In this sample, maternal experiences of emotional abuse affected displays of children's dysregulation only; it was unrelated to adaptive emotion regulation in the toddlers. This supports previously findings that for those who have experienced abuse, emotional maltreatment (and not physical nor sexual abuse) affect emotion *dysregulation*, specifically. (Berzenski & Yates, 2010; Burns et al., 2010). It is also similar to previous work that has shown that it is caregiving behaviors that effect adaptive emotion regulation (Calkins & Hill, 2011).

Mediating Effects of Maternal Caregiving Behaviors

As previously mentioned, emotionally abusive experiences were not related to later maternal sensitive caregiving; the quality of their sensitive caregiving is indistinguishable from non-emotionally abused women. Importantly, this is not the case for those who have suffered physical and sexual abuse; their caregiving behaviors were of lower quality. These findings elucidate the important of examining different types of abuse separately, as they have different consequences. However, emotionally abused women may have more difficulties with caregiving behaviors related to interpersonal boundaries; results were suggestive (but not significant) that those who experienced psychological maltreatment were more likely to engage in role reversing behaviors. Chronic emotional abuse encourages children to be hypervigilant to their caregivers' emotions and needs as a protective mechanism; this may lay foundational schemas for role reversal with their own children. Children who experience chronic psychological maltreatment live in an environment that is unpredictably dangerous; abuse does not generally happen only in

isolated moments. Adaptations, such as hypervigilance, keep children safer but can become maladaptive later in life (Martin & Rodeheffer, 1976).

Women who have been emotionally abused may also be reminded of previous traumas during caregiving, which may cause them to act in frightened or frightening ways with their children (Jacobvitz et al., 2006). Children who are frightened repeatedly by their attachment figure are more likely to show dysregulation (Schuengel et al., 1999). Similarly, frightening behaviors in our model were marginally linked with both maternal childhood emotional abuse and increased toddler underregulation. Mothers who have experienced more early psychological trauma may be more subsumed by their trauma during caretaking, and thus frightening their child, affecting their toddler's inability to regulate more generally. Further research must examine this pathway more closely.

Interestingly, mothers who displayed more sensitive caregiving were also more likely to have underregulated toddlers. During the second year of life, toddlers are developing emotion regulation abilities as well as increased autonomy and self-efficacy (Dix, Stewart, Gershoff, & Day, 2007). Autonomy development is bolstered by environments in which children are permitted to exercise some control (Crockenberg & Litman, 1990). Signs of underregulation at this age, in addition to belying a lack of emotion regulation abilities, may also be reflecting increased autonomous behaviors as a result of sensitive caregiving (Dix et al., 2007). As children become older, autonomy is no longer expressed through defiance (Kuczynski, Kochanska, Radke-Yarrow, & Girnius-Brown, 1987); future studies should explore underregulation over time to better understand how emotional abuse and caregiving both contribute to this facet of emotion dysregulation.

Limitations & Future Directions

While this research highlights the importance of examining the intergenerational effects of emotional abuse, it has some important caveats. As is often the case when studying childhood abuse, reports of abuse were retrospective and not independently verified. Our sample consisted overwhelmingly of White participants; future research should assess how emotional abuse affects mother-child relationships in more ethnically diverse samples. Samples with more dyads will allow us in the future to better understand and potentially replicate these findings.

Additionally, we only studied the effects between women and their children; future work must look at fathers as well as parent-child triads to generate more comprehensive models of how the effects of emotional abuse are carried across generations. Future research should replicate these findings and explore potential mediators of the relation between childhood emotional abuse and toddler underregulation in the subsequent generation, such as maternal emotion regulation and whole-family climate. Possible moderations of this link, such as high-quality therapy, length of abuse, earned security, or epigenetic factors may also affect this association. Further study should also address the interactive effects of experiencing multiple types of maltreatment. It is also important to explore how we can apply this knowledge to interventions that can support women who have experienced emotional abuse as they become parents.

Conclusion

In summary, this study was the first, to the author's knowledge, to examine the intergenerational effects of emotional abuse separately from other types of abuse. Emotional abuse has long-lasting effects and deserves the same extensive focus as other types of abuse have received in the literature. Despite these long-term effects, psychologically maltreated mothers

engage in caregiving that is as sensitive as non-psychologically maltreated mothers. These mothers may be engaging in caregiving behaviors that are related to emotional distress, i.e. role reversal and frightening behaviors.

A strength of this study is the inclusion of continuous measures of emotional, physical, and sexual abuse. Examining maltreatment on a continuum better mirrors actual experiences of children (Newcomb & Locke, 2001). It also underscores the importance of studying different types of abuse concurrently but separately from one another. Much of the previous research has either ignored emotional abuse, or when measured, subsumed emotional abuse into a broader construct of child abuse. Investigating maltreatment generally is likely leading to suppression of important relations between abuse and outcomes in the field. The Emotional Abuse Coding System created for this study allowed for a comprehensive understanding of how emotional abuse is experienced and transmitted among different families.

Tables and Figures

Table 1

Zero-order Correlations of Abuse, Parenting, Emotion Dysregulation, and Income Variables

	1	2	3	4	5	6	7	8	9	10
1. Emotional abuse	-									
2. Physical/Sexual abuse	.58***	-								
3. Sensitivity 24 month	-.09	-.22*	-							
4. Hostility 24 month	.03	-.15	.81***	-						
5. Disengagement 24 month	-.05	.18	.86***	.72***	-					
6. Role reversal 24 month	.21 [†]	.07	-.21 [†]	-.01	-.14	-				
7. Frightening Behaviors 24 mo.	.27**	.17 [†]	.03	.08	.10	.11	-			
8. Underregulation	.28*	.13	.19	.20	.10	.27*	-.05	-		
9. Overregulation	-.12	.01	-.13	.03	-.10	.19 [†]	-.04	-.24*	-	
10. Income	-.25**	-.09	-.02	-.02	.03	-.23*	-.11	-.21	-.15	-
<i>M (SD)</i>	4.78 (3.05)	2.99 (2.52)	5.60 (0.92)	4.11 (0.78)	4.02 (1.04)	1.95 (0.87)	2.63 (1.85)	1.45 (1.22)	2.75 (1.65)	3.50 (1.15)

Note. Possible N = 125. [†] $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$.

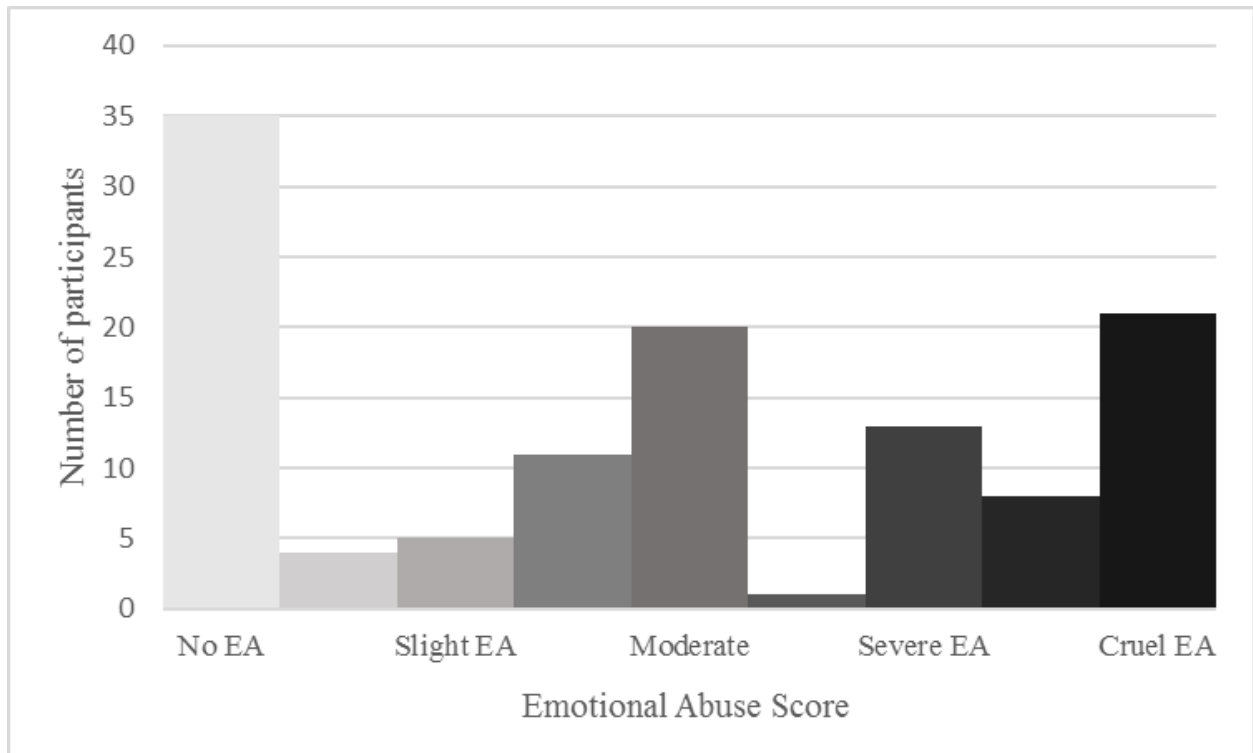


Figure 1. Distribution of maternal reports of emotionally abusive experiences.
Note. N = 118.

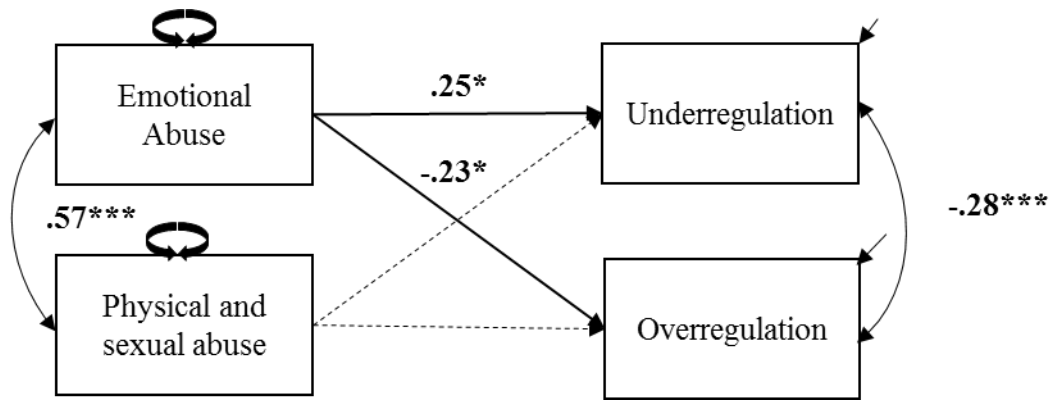


Figure 2. Relations between maternal experiences of abuse and toddler emotion dysregulation, controlling for family income.

Notes. N = 125. $^{\dagger}p < .1$, $*p < .05$, $**p < .01$, $***p < .001$.

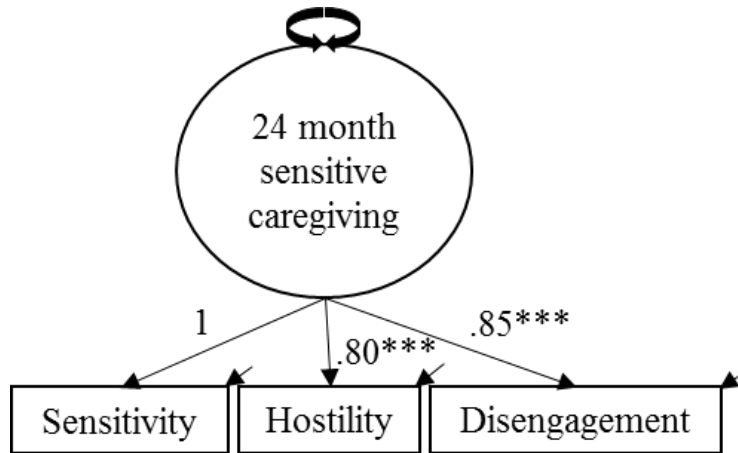


Figure 3. Measurement Model of Sensitive Caregiving.

Notes. $N = .97$. $\chi^2 = .949$, $p = .330$; RMSEA = .000 [.000 – .266]; CFI = 1.000; SRMR = 0.012.

[†] $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$.

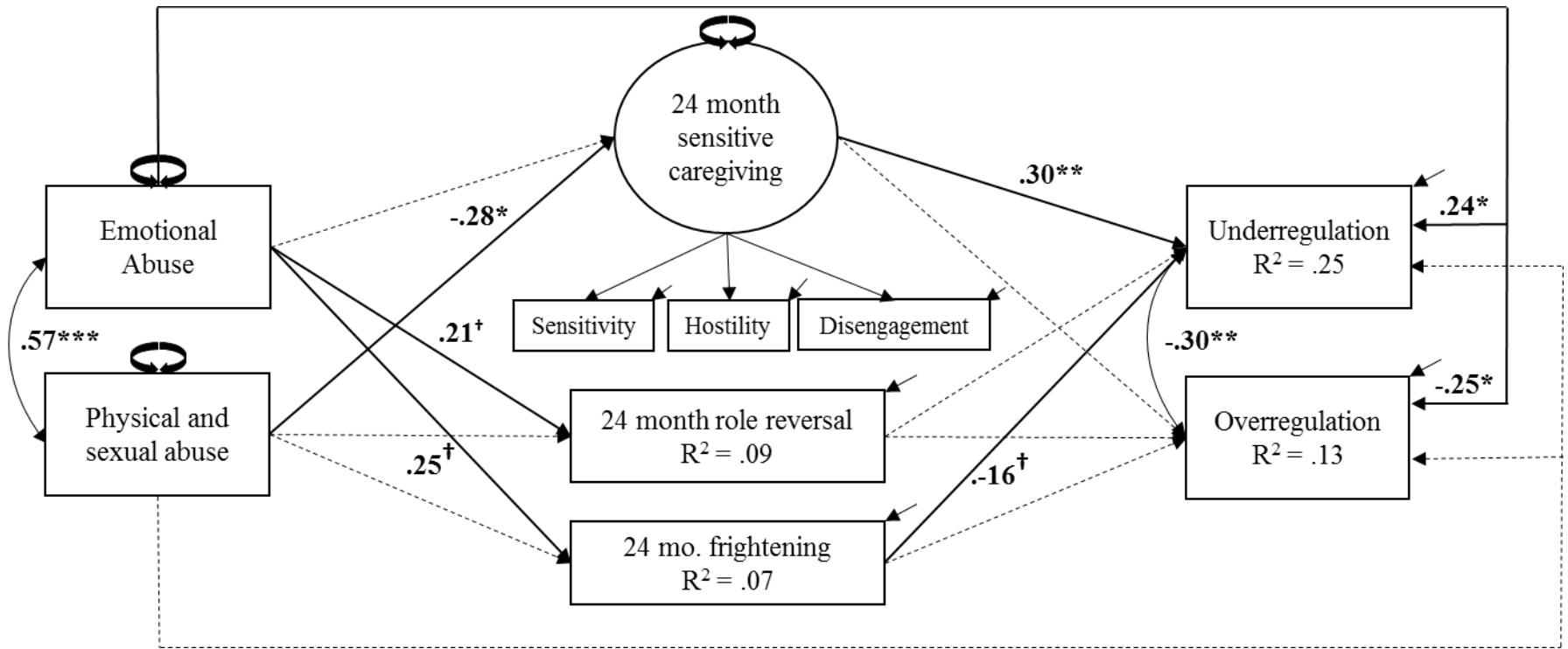


Figure 4. Structural Model of Maternal Experiences of Child Abuse, Maternal Caregiving, and Toddler Dysregulation.

Notes. $\chi^2(17) = 12.685, p = .757$; RMSEA: .00 [.000 - .058]; CFI = 1.000; SRMR = .045.

$^\dagger p < .1$, $^* p < .05$, $^{**} p < .01$, $^{***} p < .001$.

Appendices

Appendix A: Emotional Abuse Coding Sheet

Emotional Abuse: *Must be within caregiver-child relationship. 0 - 14 years of age*
1 = no emotional abuse

3 = slight emotional abuse

- One or two limited examples of verbal abuse
- One or two limited examples of shaming/embarrassment
- One or two examples of conditional love
- One or two limited examples of criticizing (e.g. features, work)
- One or two examples of caregiver blaming child for things child did not do
- One of two limited examples of manipulation or deception or betrayal
- Vicious, repeated verbal fighting between parents

5 = moderate/occasional emotional abuse

- Serious threats of abandonment or sending child away
- Ridiculed by caregiver in front of others
- Blaming child for things out of scope (e.g. parental problems)
- More than two examples of caregiver blaming of child for things child did not do
- Moderate examples of criticizing (e.g. features, work)
- Persistent feeling that caregiver disliked child
- Consistent embarrassment of child
- Purposeful destruction of child's property
- Serious rejection of child
- Persistent manipulation or deception or betrayal
- Persistent fear of parent (not afraid of physical harm)

7 = Severe emotional abuse

- Witnessing violence between parents that is not as severe like slapping, hitting but not beating partner up or leaving marks.
- Verbal abuse (screaming at, insults, put-downs, swearing at child) that occurs often but is not an integral part of the relationship
- One example of severe humiliation
- Forcing child to do something that will clearly inflict harm on child.

9 = Cruel emotional abuse

- Caregiver seriously threatens to commit suicide

- Witnessing severe (physical or sexual abuse of sibling or parent acting violent with other parent) abuse of domestic violence
- Frequent (in the fabric of the relationship) verbal abuse: swearing at child, insults, put-downs
- More than one occurrence of severe humiliation
- Taking pleasure in child's fright -- example, laughing at child's fear
- Harsh, non-physical punishments, for example
- Severe threats of maltreatment/fears of being physically hurt
- Caregiver terrifies child on purpose
- Caregiver did not believe child about abuse from other. (e.g. relative sexually abused them and mother doesn't believe/blames them)

*When there are multiple different examples, may move up a rating.

AAI Scale

- Parent goes into frightening rages directed at the child
- Bizarre punishments (like being locked in a closet, bound hands and legs)
- Parent attempts suicide with child nearby or present
- Parent exhibits bizarre and frightening behavior in front of the child, even if not directed at the child
- Parent threatens to harm or kill child and it is clear this is not joking exasperation

Appendix B: Sexual and Physical Abuse

1. No physical or sexual abuse
2. Spankings on occasion but no evidence parent is out of control
3. Frequent spankings but not harsh. Possible sexual abuse
4. Harsh spankings but not abusive
5. Parents or others talk about subject being beaten, maybe not literally, and subject only remembers non-abusive spankings or nothing
6. Severe or very frightening physical harm by someone other than parental figure
7. Physical abuse that occurred more than once or sexual abuse by anyone (as on Mary Main's scales)
 - Threats of killing subject from attachment figure
 - Witnessing abuse of parent
 - Mother is hospitalized for more than a couple days when subject is younger than 12 and subject can't visit
 - Frightening images throughout transcript (note subject number)
 - Witnessing death or seeing dead bloody bodies
 - Parent threatening suicide

Appendix C: Parent-Toddler Caregiving Scales

Instructions: All items are rated 1-7, based on the scale below. Write the number of the chosen rating for each item in the designated space according to how much each item describes behavior that is like vs. unlike the parent, child, or dyad (whichever is specified by the item).

Very unlike		Somewhat unlike	Mixed	Somewhat like		Very much like
1.....	2.....	3.....	4.....	5.....	6.....	7.....
Very low		Somewhat low		Somewhat high		Very high

_____ 1. Parent seems annoyed or frustrated when child shows it has a will of its own.
Low-- Parent values and accepts child's attempts at autonomy.

_____ 2. Parent supports and encourages child's exploration.
Low-- Parent restricts child's exploration unnecessarily; or may seem hurt or annoyed if explorations lead child away from parent.

_____ 3. Parent shows physical affection to child, e.g., tender kisses, strokes child's hair, etc.;
without interfering with child's wishes.
Low-- Parent is predominantly either cool and aloof or hostile and rejecting to child.
Middle-- Parent shows affection to child but in a way that sometimes interferes with child's wishes. Parent may be intrusive or overstimulating in his displays of affection; child may turn away.

_____ 4. Parent shows annoyance or hurt feelings when child does not respond to parents' initiations; e.g., when child does not want to play with a toy parent offers.
Low-- Parent is accepting of child's own interests and feelings.
Middle—Parent is passively accepting of child's own interests and feelings, i.e., does not show active interest in child's choices, but also does not interfere with his/her choices (e.g., suggesting other activities or toys) or express any negative feelings about them.

_____ 5. Parent and child share joy in their interaction; they get obvious pleasure from being together.
Low-- Parent and child are predominantly disengaged or seem tense and uncomfortable in their interactions.

_____ 6. Parent displays positive affect to the child which seems false or overbright. Parent seems to be trying to create an impression of being affectionate, but the affection does not seem genuine.
Low-- Parent's expression of affection is genuine.

Middle-- Parent does not display much affect, either overbright or genuine.

- _____ 7. Parent displays predominantly genuine positive affect to the child through a tender vocal tone, gentle physical contact, and frequent smiles.

Low-- Parent displays some negative affect (harsh tone, abrupt movements, frowns, negative comments) that is not in the context of predominantly positive affect.

Middle-- Parent displays predominantly flat affect or phony (overbright) positive affect.

- _____ 8. Parent responds promptly and with tenderness to child's bids for comfort or affection (e.g., raising arms to be held).

Low-- Parent does not respond to child's bids.

Middle-- Parent responds to child's bids eventually, but at first may misinterpret them or be too involved in another activity to respond promptly.

- _____ 9. Parent responds promptly and with genuine interest (either verbally or physically) when child initiates play (e.g., shows parent a toy, initiates a game).

Low-- Parent ignores or even rejects child's initiation.

Middle-- Parent is slow to respond or misinterprets child's meaning.

- _____ 10. Parent arbitrarily restricts child's play (i.e., directs child to another activity when it is not necessary for child's health or safety, or to prevent accidents or damage to equipment); e.g., parent directs child to play with certain toys rather than others.

Low—Parent lets the child choose what to play with and only restricts play when necessary for health or safety reasons (e.g., child putting toys in his/her mouth).

Middle-- Parent sets limits that he or she thinks may be needed in context of the study (e.g., tries to keep child playing with toys or teaching task when s/he's getting tired); or directs child to play with toy in “appropriate” way when not necessary (e.g., tells child correct way to make a sandwich or use the cash register).

- _____ 11. Parent constantly opposes child's wishes; e.g., tries to force child to play with toys s/he doesn't want, to stay in a confined area, to play a certain way, etc.

Low-- Parent respects child's autonomy as a separate person and tries to help child achieve his/her goals when this is reasonable; parent and child seem to have the same goals.

Middle—Parent may push child to finish task or play with toys in an “appropriate” way but generally follows the child's interests. To the extent that child goes along and shares the goal, rate lower. To the extent that child shows opposition and the parent still persists, rate higher.

- _____ 12. Parent verbally expresses annoyance or resentment concerning the child to the experimenter or to the child; parent criticizes the child. (e.g., "Thank goodness for day care. I don't know what I'd do if I couldn't get away from him everyday"; or to the child, "That wasn't smart")

Low-- Parent makes believable positive comments about the child.

Middle-- Parent doesn't comment about the child.

- _____ 13. Parent acts like a long-suffering martyr in interactions with the child; e.g., pseudo-patient, passive, sighs, interest in child does not seem genuine.

Low-- Parent shows definite positive engagement with the child.

- _____ 14. Parent verbally expresses his annoyance with child to child. (e.g., "You're tiring me out"; "That wasn't nice!")

Low-- Parent verbally praises child.

Parent expresses annoyance only when the child only when appropriate, e.g., child hits parent and parent says, "That hurts mommy!"

- _____ 15. Parent sometimes uses harsh, sharp, or sarcastic voice tone to child.

Low-- Parent's voice is cheerful or soft and soothing, appropriate to the situation.

- _____ 16. Parent's vocalizations to the child are overstimulating, e.g., he/she often talks too much, too loudly, too quickly, or in an overly animated way.

Low--Parent's vocalizations are appropriate to the child's mood.

Middle—Parent often speaks in a quick, loud, or animated tone, but it does not seem to overstimulate the child.

- _____ 17. Parent shows veiled hostility in interactions with child through sarcastic comments, derisive laughter, or teasing.

Low-- Parent shows no form of hostility to the child.

- _____ 18. Parent calls child unflattering names (e.g., "Stinker" "Fatso" "Clumsy").

Low-- Parent never acts in a derisive way towards child.

- _____ 19. Parent shows veiled hostility to child by using abrupt, jerky movements when handling him.

Low-- Parent is gentle when handling child.

Middle-- Parent is sometimes abrupt when handling child, but his demeanor is otherwise positive and does not seem to indicate veiled hostility.

- _____ 20. Parent is patient and calm in interactions with child.

Low-- Parent shows clear impatience with child.

- _____ 21. Parent and child show strong positive engagement and shared focus of interest.

Low-- Parent and child are mostly disengaged.

Middle-- Parent and child share focus of interest but engagement is more neutral than strongly positive.

- _____ 22. Parent does not try to "punish" or retaliate toward child when child opposes parent's wishes.
Low-- Parent tries to "teach child a lesson" when child opposes parent's wishes, e.g., taking a toy away, giving a sharp verbal response, slapping child's hand, jerking child away, deliberately ignoring child.
- _____ 23. When child opposes or ignores parent's wishes, parent seems hurt or makes comment indicating he or she believes that child has rejected him.
Low-- Parent does not take it personally when child pursues its own interests, but rather, follows child's lead.
- _____ 24. Parent says positive things about child to the experimenter or to the child. (e.g., "He's so affectionate." "You're so smart!")
Low-- Parent says negative things about child.
Middle-- Parent says nothing about child, or makes mostly positive and a few negative observations.
- _____ 25. Parent and child's interaction seems flat and disengaged.
Low-- Parent and child are strongly positively engaged.
Middle—Interaction is mildly positive.
- _____ 26. Parent seems tense and strained in interaction with child.
Low-- Parent is relaxed with child.
- _____ 27. Child seems relaxed and happy in interaction with parent.
Low-- Child seems tense in interaction, may be fussy or avoidant.
- _____ 28. Child seems to want to avoid interaction with parent.
Low-- Child seems to enjoy sharing his/her discoveries and activities with parent.
- _____ 29. Child becomes fussy and agitated in interaction with parent.
Low-- Child is calm and relaxed throughout the interaction.
- _____ 30. Parent tries not to interrupt child's ongoing activities, but instead waits for a natural break before initiating a transition and initiates the transition in a way that capitalizes on the child's interests.
Low-- Parent frequently interrupts child's activities without regard for child's ongoing activity, interests, and wishes.
- _____ 31. Parent violates child's space by frequently moving child around abruptly and without warning, grooming child abruptly and unnecessarily, and/or physically manipulating child.
Low-- Parent respects child's space.

- _____ 32. Parent makes unnecessary and unwanted physical restraints on child (e.g., holds his/her hand back, moves him/her away from something).
Low-- Parent only physically restrains child when absolutely necessary for his safety; instead of physical restraint, parent tries to divert child or appeal to his interests (e.g., to keep him away from camera or in camera range).
Middle—Parent does not restrain child physically but may make unwanted and unnecessary interventions (e.g., using objects child is playing with).
- _____ 33. Parent suddenly looms into child's visual field, with his own body or with an object, or intrudes into child's space.
Low--Parent respects child's space; moves so as not to startle child or interfere with his activities.
- _____ 34. Parent tries to force child to play with a particular toy, or to play the way parent wants to play.
Low-- Parent follows child's lead in play, introducing new toys only when appropriate (e.g., when child is getting bored or fussy, or is unoccupied). If child does not show interest in the toy or mode of play, parent introduces, parent does not pursue it.
Middle-- Parent continues to try to get child to play with toy or play a certain way after child has lost interest, but does not force the child, and eventually changes his or her strategy. Or, parent does not show interest in child's play.
- _____ 35. Parent spends most of his time "at" child, trying to instruct, train, or direct child even when child is not interested
Low-- Parent's teaching and instruction are geared toward child's interests.
Middle—Parent is either not very involved in interactions with child, or is sometimes geared toward child's interests and sometimes directing child toward his/her own interests or ways of playing.
- _____ 36. Parent and child have shared goals in play and feeding; they seem to understand each other; their actions seem co-determined.
Low-- Parent's goals are paramount.
- _____ 37. Parent respects child as an autonomous person whose wishes have a validity of their own.
Low-- Parent treats child as an extension of himself; as parent's "possession".
- _____ 38. Parent becomes anxious or annoyed when child does not comply with parents' wishes.
- _____ 39. Parent provides a voice for child's wishes, e.g., when child does not to continue a problem-solving task, parent may say to the observer: "I think he's had enough. Are we

almost done?" When child does not wish to play: "He's pretty tired. Is it okay if we stop now?" Also, parents' voicing of child's wishes seems congruent with child's feelings.

Low-- Parent inaccurately voices child's feelings

Middle-- Parent does not voice child's feelings; or parent is sometimes accurate and sometimes inaccurate.

- _____ 40. When parent needs to limit child's actions, parent does so gently and in a way that minimizes interruption to ongoing activities, often by distracting child from what s/he should not be doing and capitalizing on child's interests.

Low-- Parent limits child's actions abruptly, without regard to child's ongoing interests.

- _____ 41. Parent sets many arbitrary and unnecessary limits (e.g., prohibiting child from play with a certain toy, or using toy a certain way)

Low-- Parent only sets limits when necessary (e.g., to prevent child from hurting himself, others, or property).

Middle-- Parent sets limits that are not arbitrary but also not necessary, e.g., limits that facilitate task completion. That is, parent may prohibit child from playing with something other than toys because parent wants him to stay in camera range and complete the play task.

- _____ 42. Parent plays by interacting with child in a gender-stereotyped way and overtly discourages child from playing with toys that are not sex-typed (e.g., telling a son, "Dolls are for girls")

Low-- Parent follows child's lead in play and does not in any way encourage gender-stereotyped play.

Middle—Parent subtly guides child toward gender-stereotyped toys (e.g., telling a girl, "Can you fix my dinner?" or a boy "Did you see these tools?" but does not overtly tell child not to play with toys that are stereotyped for the opposite gender. Score higher if parent guides child toward a sex-typed toy when s/he is showing interest in an opposite-gender toy (e.g., a parent who points out the tools when a son is showing an interest in the doll).

- _____ 43. Parent overstimulates child, e.g., by tickling, swinging, bouncing, etc. even when child is getting tired, frustrated, and overwhelmed.

Low-- Parent may do some physical play with child, but is attentive to child's affect regulation and careful not to overstimulate.

Middle—Parent does not do physical play, or is just occasionally overstimulating.

- _____ 44. Parent tries to make child do "tricks"; e.g., make a particular vocalization or perform a particular act, such as asking child to sing a song. To receive the highest rating, the trick that the child is asked to perform should be unrelated to child's ongoing activity, and child should not be very interested in doing the trick and must be pushed by parent.

Also, to get a high rating, making the child do tricks should be frequent and not an isolated event.

Low-- Parent follows child's lead in playing games such as imitating each others vocalizations or facial expressions

Middle—Parent asks child to answer questions or perform tasks related to the child's ongoing activity. Rate higher if parent persists with the request when child is disinterested, or if the request distracts from child's ongoing activity even though child is interested in complying. Also, rate in the middle if the parent generally follows the child's lead except for an isolated event.

- _____ 45. Parent is spontaneous in interactions with child; he/she is willing to stop his ongoing activity to respond to child's play initiations

Low-- Parent is unwilling to interrupt ongoing tasks to engage in spontaneous games.

- _____ 46. Parent responds promptly to child's social initiations or expressions of distress.

Low-- Parent frequently does not respond to child's initiations or distress (keeping to his own agenda), and frequently responds only after a delay (e.g., after he/she completes his/her task, or when he/she finally gets the message.) For example, when child shows interest in a different toy, parent continues to play with the toys he/she chose for child; when child gets upset, parent ignores or misinterprets the distress.

Middle-- Parent's response is sometimes prompt and sometimes delayed.

- _____ 47. Parent encourages child's autonomy in problem-solving

Low-- Parent controls child's problem-solving.

- _____ 48. Parent is task-oriented in interaction with child rather than relationship oriented; i.e., parent's focus is in getting the child to succeed in the task, or to play with toys in a particular way, with little concern for child's mood or interests.

Low-- Parent cares more about relating to child than completing tasks.

- _____ 49. Parent's interactions with child are developmentally appropriate (matched to child's developmental level).

Low-- Parent's interactions with child are developmentally inappropriate; e.g., parent may present tasks or have expectations of child that are beyond child's developmental level. Parent may also use sarcasm or other modes of interaction that are not developmentally appropriate.

- _____ 50. Parent frequently misinterprets child's cues; does not seem to understand child's nonverbal communication.

Low-- Parent's responses to child are finely tuned to child's wishes; parent communicates well with child and is in touch with what child is feeling.

- _____ 51. When child is fussy, tired, or distressed, parent responds empathically by provided needed comfort and soothing.
Low-- When child is fussy, tired, or distressed, parent responds with impatience or by overstimulating child.
- _____ 52. Parent talks to child about his ongoing activities in ways that seem to accurately reflect child's feelings; e.g., "You're tired of this, aren't you?" when child turns away from task; "Oh, that's fun, isn't it!" when child is enjoying a play interaction, etc.
Low-- Parent talks mostly about his own agenda (e.g., by giving instructions, "Put the cup here like Daddy did"), or does not talk to child.
- _____ 53. Parent frequently checks with child to verify child's wishes, e.g., "Want another toy?", "Are you getting tired of this game?"
Low—Parent is very directive with child; does not check to see what child is interested in.
Middle—Parent is fairly uninvolved in play with the child; or is inconsistently attentive to child's interests.
- _____ 54. Parent tries to empower and affirm child's interests (e.g., "You really like shopping, don't you")
Low—Parent does not make interested comments in what child is doing.
- _____ 55. Parent allows child's agenda and interests to dominate the interaction.
Low-- Parent's own agenda dominates the interaction.
- _____ 56. Parent is very familiar with child's preferences and interests; parent knows how to engage child, and how to redirect child's interests when necessary.
Low-- Parent seems to be at a loss when it comes to knowing how to engage child or redirect child's interests.
- _____ 57. Parent can effectively comfort child when child is fussy, tired, or distressed; or child remains contented throughout the interaction and does not require comforting.
Low-- Parent does not try to comfort child, or is incompetent in his or her attempts to do so.
- _____ 58. Parent seems to have his or her mind elsewhere, is disengaged.
Low-- Parent is very aware of child at all times, engaged and responsive.
Middle-- Parent is attentive to child, but not consistently responsive and sensitive to child's cues.
- _____ 59. There is a calm flowing rhythm to parent's interactions with child.
Low-- The flow of parent-child interaction seems abrupt, discontinuous, and unpredictable.

- _____ 60. Parent responds to each of child's vocalizations or social gestures, no matter how subtle, with words, imitations, or expansion of sounds or gestures.
Low-- Parent is unresponsive, or rejecting of child's vocalizations or social gestures.
- _____ 61. In the context of following child's lead, parent offers challenges to child. Parent offers challenges only as long as the child is interested.
Low-- Parent is overly directive in play and not sensitive to child's interests.
Middle—Parent rarely offers challenges, or is apathetic or uninvolved.
- _____ 62. When child tests a limit, parent becomes involved in a power struggle.
Low-- When child tests a limit, parent acknowledges this in a supportive way, sometimes in a joking way, then offers an acceptable alternative, avoiding a power struggle.
Middle—Parent does not set limits.
- _____ 63. Parent responds to child's attempts at autonomy (e.g., child chooses different activity from what parent suggests) with tolerance and good humor.
Low-- Parent opposes child's attempts at autonomy even when they cause no harm.
Middle—Parent is indifferent or unresponsive to child's attempts at autonomy.
- _____ 64. Parent and child engage in reciprocal games (e.g., taking turns feeding each other raisins, taking turns winding up toy, parent opens box and child closes box).
Low—There are no reciprocal games.
Middle—Reciprocal games are brief or infrequent.
- _____ 65. Parent waits to offer an object or provide guidance in play until child indicates an interest and is oriented.
Low-- Parent offers toys or guidance without regard to child's ongoing activity.
- _____ 66. Parent pushes to continue activities such as play or problem-solving after the time that the child has lost interest in activity or become fatigued; allows child to get to the point of becoming upset.
Low-- Parent is sensitive to when child is bored or fatigued, and knows how to comfort or re-engage him.
Middle—Parent pushes teaching task to the point that child is just starting to ask frustrated or upset, because that seems to be what the teaching task situation requires, but comforts the child and gives child the help needed to solve the problem before s/he becomes very upset. Or, parent does not try to comfort or reengage child but also does not push.
- _____ 67. Parent's responses are contingent with child's cues.
Low-- Parent's actions have little to do with child's cues; seem unconnected.

- _____ 68. Parent expresses annoyance, frustration, or anxiety when child does not respond to his wishes.
Low-- Parent responds with good humor and patience when child does not respond to his wishes; does not take it personally.
- _____ 69. Parent helps child achieve success in play by guiding child but not actually doing task for him/her, e.g., pointing to place where shape goes when playing with a puzzle.
Low-- Parent is highly directive in play, determining what the child does and completing tasks for him/her.
Middle-- Parent is not very involved in helping child complete tasks.
- _____ 70. Child shows distress or discomfort due to parent's overstimulation by arching his back, turning away, etc., but parent does not back off.
Low--When child shows discomfort due to overstimulation, parent backs off .
Middle-- Parent does not overstimulate child
- _____ 71. Parent sets unrealistic and developmentally inappropriate limits (child not mature enough to comply).
Low-- Parent set limits only when necessary; more often gain child's cooperation by distracting child and appealing to child's interests.
Middle-- Parent sets limits that are realistic but not necessary (e.g., not letting child play a certain way).
- _____ 72. The child appears to be frightened by the parent at times.
Low—Child is always calm and relaxed with parent.
Middle—Child seems intimidated by the parent frequently, but not frightened.
- _____ 73. The parent appears to be frightened by or nervous about the child at times.
- _____ 74. Parent uses a breathy, falling intonation (haunted sounding) when speaking to the child.
- _____ 75. The parent gives mixed emotional messages to the child, e.g., standing stiffly with arms crossed while cheerfully calling and smiling.
Low—Parent gives clear emotional messages, whether of negative or positive feelings.
- _____ 76. Parent uses unusual speech content that implies that child's action could have harmful consequences, including harsh, adult words (e.g., "You're going to kill everyone if you do that").
Low-- Parent's speech to child is situationally and developmentally appropriate.

Middle-- Parent's speech to child may at times be situationally or developmentally inappropriate (e.g., his expectations or language may be too advanced for the child to comprehend), but it is not frightening, bizarre, or ominous.

_____ 77. There is a clear lack of emotional connection between parent and child.

Low-- Parent and child are clearly emotionally engaged.

_____ 78. Parent shows, at different times, both overstimulation of child (sometimes extreme enough to cause child distress) and understimulation (sometimes to the point of merely performing robot-like behaviors with a dazed, distant composure).

Low-- Parent is neither overstimulating nor understimulating.

Middle-- Parent shows either a predominantly overstimulating, or predominantly understimulating, pattern.

_____ 79. Parent teases child in a somewhat sadistic way, even though child may attempt to disguise the sadism by seeming warm and in good spirits.

Low-- Parent does not tease child.

Middle-- Parent's teasing is in fun, does not seem to have a sadistic element.

_____ 80. Parent seems timid, passive, or helpless in interactions with child, e.g., may plead for child's help or affection; may slump over, with head down slightly, hands in lap and be focused on child with a disappointed, pleading look.

Low-- Parent seems confident and relaxed in interactions with child.

Middle—Parent seems somewhat uncertain about how to play with child, not confident but not helpless.

_____ 81. When playing games with child, parent's voice tone or laughter sounds harsh, ominous, or frightening at times, even though he/she may be smiling and laughing.

Low—Parent generally sounds pleasant .

Middle—Parent sounds somewhat sharp occasionally, particularly when setting limits, but not ominous or frightening.

_____ 82. Child avoids eye contact with parent.

_____ 83. Child's play seems passive or apathetic.

Low-- Child is actively involved in play.

_____ 84. Parent shows restricted emotional expression or "stiffness"; such stiffness seems due to the inhibition of the expression of negative emotions.

Low-- Parent expresses emotions freely, but in an appropriate manner.

- _____ 85. Parent shows sudden change in emotional expressivity at times; e.g., going from active play involving smiling & laughter (often overstimulating to child), to passivity, lack of involvement, and a frozen expression.
Low-- Parent does not show abrupt changes in emotional expressivity; changes in expressivity seem predictable and appropriate to the situation.
- _____ 86. Parent seems very concerned that child complete the problem-solving task correctly and on his/her own, with minimal assistance. Parent seems to want to show that child is smart.
Low—Parent is unconcerned whether or not child succeeds in the task; may either just let child play his/her own way, or is fairly uninvolved in helping the child.
Middle—Parent tries to help child succeed in the task but is not that concerned about whether child is able to complete it without parental assistance..
- _____ 87. Parent becomes frustrated or angry if child does not attend to the task or try to complete it, or if child persists in using unworkable strategies.
Low—Parent remains calm and patient throughout the task.
- _____ 88. Parent is effective in calming the child if s/he becomes frustrated with the task, or, the child does not ever become frustrated with the task (even though child plays a considerable part in completing the task).
Low—Parental intervention makes the child even more frustrated.
Middle—Child does not become frustrated with the task because the parent basically does the task for the child.
- _____ 89. Parent provides highly directive assistance; solves problem without giving child a chance.
Low—Parent does not provide assistance even though it is needed, or assistance is ineffective.
Middle—Parent provides an appropriate level of assistance when needed, or assistance is not needed.
- _____ 90. Parent tries to stimulate the child's interest in solving the problem-solving task.
Low—Parent shows little interest in the task.
Middle—Parent stimulates child's interest just in completing the task, not caring much that the child understands the how it works and how to solve it.

Appendix D: Children's Emotion Regulation Scales

What is Emotion Regulation?

Generally, emotion regulation can be defined as the ability to express appropriate emotions in a given situation. Appropriately regulating one's emotions involves *actively* coping with emotions and expressing them in socially acceptable ways, such as communicating the emotion verbally and discussing the reason for the emotion. Although emotion regulation involved individual's arousal levels, such as their proneness to distress, as well as their ability to regulate that distress, this code will only measure *how well toddlers can match their emotions to the current situation*. Based on this definition, it would be expected that children should show negative affect (anger, fear, sadness, distress, frustration, etc.) at certain times and positive affect (pride, joy, happiness, etc.) at other times.

Appropriate Emotion Regulation – The ability to match one's emotions to the current situation.

Indications of appropriate emotion regulation

1. Child shows mild to moderate distress, anger, or frustration when failing at task
 - A. child shows, either through facial expressions, verbal expression (e.g. sighing), or verbalization, that they are frustrated, but is still able to ask for help either by verbalizing it, or motioning for help
2. Child shows little or not frustration, but maintains interest in the task, such as continuously or enthusiastically working on task, or is EASILY brought back to the task by the experimenter when he/she becomes distracted by something else
3. Child shows joy, pride, or happiness upon discovering a possible solution to the task
4. Child shows joy, pride, or happiness upon completing the task

NOTE: A child who says "I can't" or "It's hard" (or something similar) should be considered as appropriately regulating their emotions if they continue to work on the task and maintain interest in it, especially if it seems such statements are intended as a plea for help from the experimenter.

Overregulation of Emotion – The tendency to avoid or refrain from expressing negative and/or positive emotions either by suppressing them or by leaving or turning attention away from upsetting situations. NOTE: this will be hard to recognize.

Indications of Overregulation

1. Child shows no or very little distress (see below) after failing at the task for quite a period of time (30 seconds or more)

2. Child shows subtle signs of being distressed, but does not ask for help (possibly in an attempt to keep the negative emotion suppressed) or does not clearly indicate frustration, for example:
 - a. **Subtly** bites lip (a sign of suppressing distress/frustration)
 - b. Makes other **subtle** facial expressions indicating frustration, such as pressing lips together, or flaring nostrils, but does not ask experimenter (either verbally or by motioning for help)
3. Child shows little or no interest in the task after having difficulty finding the solution. Such avoidance of the task seems to be an attempt to avoid frustration. (For example, if the child shows some of the subtle signs of frustration mentioned above, then stops working on the task).
4. It is difficult or impossible for the experimenter to redirect the child back to the task after they have failed it. (Remember, with overregulation, the child should be displaying little negative affect). NOTE: leaving to find a parent should not be considered for this code.
5. Child shows no positive affect when discovering a possible solution or successfully completing the task (positive affect includes: smiling, screaming with joy, an increase in body tempo, etc.).

Underregulation of Emotion – The tendency to become so overwhelmed by emotions that the child is unable to control them and/or focus on finding a solution to what is causing the distress (in this case, probably the task).

Indications of Underregulation

1. Child shows extreme distress after failing at the task for any period of time. Extreme distress includes crying, fussing, screaming. In addition, the experimenter has trouble consoling the child or redirecting the child back to the task.
2. Due to their distress, the child is unable to focus on the task or the experimenter's advice on how to complete the task.

NOTE: Children who are distressed because their parents have left should not be coded until the child has been successfully comforted and settled into the task. In the rare case where the child is unable to be comforted, it is likely that child will be unable to be coded on these scales.

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